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01/09/2008

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EXAMINER

HOANG, THAI D

ART UNIT

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2616

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/777,723

Applicant(s)

BANERJEE ET AL.

Examiner

Thai D. Hoang

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11, 13-17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 6 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

Claim 13 is objected to because of the following informalities:

Claim 13, line 1, the preamble "*The article of claim 8*" should be changed to --*The medium of claim 8* -- in order to match with dependent claim 8.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 7-12, 14-17 and 19-20 are rejected under 35 U.S.C. 102(e) as being unpatentable by Abrol et al, US Patent No. 7,061,913 B1, hereinafter referred to as Abrol.

Regarding claim 1, Abrol discloses a method and apparatus for delayed frame detection in third generation radio link protocol. The method comprising:

receiving a data packet (fig. 5, step 502);

determining if the data packet is received out of order (fig. 5, step 504);

determining if packet reordering occurred prior to receiving the data packet

(Abrol's system monitors and calculates sequence number every time data is received,

Art Unit: 2616

step 502 and col. 12, lines 4-7; therefore, Abrol's system is always set in "packet reordering" mode); and

delaying transmission of an acknowledgement indicating that a data packet is missing in response to determining that the data packet is not the next data packet and in response to determining that the packet reordering occurred (withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10).

Regarding claims 2, 9 and 15, Abrol discloses the method comprises the steps of:

determining that the acknowledgement should be transmitted if the data packet is received out of order (received sequence number is greater than or less than  $L\_V(R)$ , fig. 5, step 504 and 514); and

waiting a preselected amount of time in response to determining that the acknowledgment should be transmitted (withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10.)

Regarding claims 3, 10 and 16, Abrol discloses the method comprises the steps of: determining if the missing data packet is received within the preselected amount of time; and transmitting the acknowledgment in response to determining that the missing data packet is not received within the preselected amount of time (col. 5, line 61- col. 6, line 10: detecting delayed RLP frames, and preventing the transmission of unnecessary

Art Unit: 2616

NAK messages and data frame retransmissions until the delayed RLP frame has been missing longer than a predefined time.)

Regarding claims 4, 11 and 17, Abrol discloses the method comprises the steps of: determining a sequence number of a next expected data packet (expect sequence number  $V(R)$ ); and determining if the sequence number of the received data packet is greater than the sequence number of the next expected data packet (fig. 5, step 504).

Regarding claims 7 and 19, Abrol discloses a network using at least the Transmission Control Protocol (col. 1, lines 48-54), and wherein delaying the transmission comprises delaying the transmission of a duplicate ACK (withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10.)

Regarding claim 8, Abrol discloses a method and apparatus for delayed frame detection in third generation radio link protocol. The method comprising:

receiving a data packet (fig. 5, step 502);  
determining if the data packet is received out of order (fig. 5, step 504); and  
delaying transmission of an acknowledgement indicating that a data packet is missing in response to determining that the data packet is received out of order (withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10).

Regarding claim 14, Abrol discloses the apparatus comprises:

an interface (fig. 7, demodulator 702);

a control unit communicatively coupled to the interface (fig. 7, control processor 704 coupled to demodulator 702). The control unit adapted to:

determining an occurrence of packet reordering (Abrol's system monitors and calculates sequence number every time data is received, step 502 and col. 12, lines 4-7; therefore, Abrol's system is always set in "packet reordering" mode); and

receiving a data packet over the interface (the received data is converted to digital RLP frames by data demodulator element 702, and the data frames pass to control processor 704; see figs. 5 (step 502) and 7, col. 13, line 65-col 14, line 2);

determining if the data packet is received out of order (control processor 704 performs delayed/missing frame detection based on received sequence numbers, col. 14, line 3, fig. 5, step 504); and

delaying transmission of an acknowledgement indicating that a data packet is missing in response to determining that the data packet is received out of order (withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10).

Regarding claim 20, since Abrol discloses the apparatus adapts with TCP protocol, and because TCP requires that a data packet be acknowledged within a specified amount of time or the sender of that data packet must assume that the data was lost and needs to resend that data packet; therefore, Abrol's apparatus inherently comprises a timer in associated with a operating system to control the preselected amount of time for determining time expiration

***Allowable Subject Matter***

Claims 6 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 13 would be allowable if rewritten to overcome the objection set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments filed 10/26/2007 have been fully considered but they are not persuasive.

Pages 10-11 of the remark, Applicants argued Abrol does not disclose the steps of: *"delaying transmission of an acknowledgement in response to determining that the data packet is not the next expected data packet and in response to determining that the packet reordering occurred prior to receiving the data packet"* as recited in claim 1. Examiner respectfully disagrees. Abrol clearly teaches the step of "delaying transmission of an acknowledgement in response to determining that the data packet is not the next expected data packet". See col. 5, lines 65-67, col. 6, lines 7-10. Furthermore, Applicants explained in page 10 of the Remarks, *"[A]s described in the patent application, determining that the packet reordering has occurred allows the receiving device to operate in the 'packet reordering' mode. See Specification, pp. 26-27."* Since Abrol's system monitors and calculates sequence number every time data is received, step 502 and col. 12, lines 4-7; therefore, Abrol's system is always set in

“packet reordering” mode. Thus, Abrol discloses the steps of *“delaying transmission of an acknowledgement indicating that a data packet is missing in response to determining that the data packet is not the next expected data packet and in response to determining that the packet reordering occurred”* as recited in claim 1.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D. Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T.H./



CHI PHAM  
SUPERVISORY PATENT EXAMINER

1/4/08